AMENDMENTS TO THE CLAIMS

1. (original) A method of detecting a resonant frequency, comprising:

a first step of measuring a first amplitude frequency characteristic; and

a second step of measuring a second amplitude frequency characteristic,

wherein the first amplitude frequency characteristic is an amplitude frequency characteristic obtained by outputting a loud sound wave of a predetermined measurement signal from a speaker placed in a resonant space and by receiving the loud sound wave in a microphone placed in the resonant space,

wherein the second amplitude frequency characteristic is an amplitude frequency characteristic obtained by outputting, from the speaker, a loud sound wave of a synthesized signal containing the measurement signal and a signal output from the microphone and by receiving the loud sound wave of the synthesized signal in the microphone, and

wherein the resonant frequency in the resonant space is detected based on comparison between the first amplitude frequency characteristic measured in the first step and the second amplitude frequency characteristic measured in the second step.

2. (original) The method of detecting a resonant frequency according to claim 1, wherein a peak frequency at which an amplitude of the second amplitude frequency characteristic is larger than an amplitude of the first amplitude frequency characteristic is detected as the resonant frequency, from a difference between the first amplitude frequency characteristic and the second amplitude frequency characteristic.

3. (currently amended) The method of detecting a resonant frequency according to claim 1[[or 2]], wherein the measurement signal is a sine wave sweep signal.

4. (original) A method of selecting a resonant frequency comprising:

detecting a plurality of resonant frequencies by a method of detecting a resonant frequency according to any one of claims 1 to 3; and

selecting dip center frequencies to be set in a dip filter in decreasing order of amplitude levels in the second amplitude frequency characteristic, from the plurality of detected resonant frequencies.

5. (original) A method of selecting a resonant frequency comprising:

selecting a plurality of resonant frequencies by a method of selecting a resonant frequency according to claim 4; and

preferentially selecting, from the plurality of selected resonant frequencies, dip center frequencies to be set in a dip filter in decreasing order of amplitude levels in an amplitude frequency characteristic obtained by subtracting the first amplitude frequency characteristic from the second amplitude frequency characteristic.

6. (original) A device for detecting a resonant frequency comprising:

a sound source means;

a signal synthesization switching means; and

a measuring means,

wherein the sound source means is configured to generate a measurement signal output from a speaker,

the signal synthesization switching means is capable of receiving, as inputs, the measurement signal from the sound source means and a signal output from the microphone,

the signal synthesization switching means is capable of switching between a first state in which the signal synthesization switching means outputs the measurement signal and a second state in which the signal synthesization switching means outputs a synthesized signal containing the measurement signal and the signal output from the microphone,

the measuring means is capable of measuring an amplitude frequency characteristic from the signal output from the microphone, and

the measuring means is configured to detect the resonant frequency based on comparison between a first amplitude frequency characteristic measured in the first state of the signal synthesization switching means and a second amplitude frequency characteristic measured in the second state of the signal synthesization switching means.

7. (original) The device for detecting a resonant frequency according to claim 6, wherein a peak frequency at which an amplitude of the second amplitude frequency characteristic is larger than an amplitude of the first amplitude frequency characteristic is detected as the resonant frequency from a difference between the first amplitude frequency characteristic and the second amplitude frequency characteristic.

8. (currently amended) The device for detecting a resonant frequency according to claim 6[[or 7]], wherein the measurement signal is a sine wave sweep signal.

9. (new) The method of detecting a resonant frequency according to claim 2, wherein the measurement signal is a sine wave sweep signal.

10. (new) The device for detecting a resonant frequency according to claim 7, wherein the measurement signal is a sine wave sweep signal.